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AUTHOR Folsom-Meek, Sherry L.; Gillam, Ronald B.
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ABSTRACT

The benefits of movement are enhanced when children with disabilities move with their nondisabled peers. This study sought to determine the effects of a motor development training program on child care providers in order to promote movement-based activities and perceived competence in this area. Twenty child care providers were assigned to either a treatment or a control group. Treatment consisted of on-site visits by university faculty, a needs assessment, demonstrations and consultations, lectures, participation in movement activities designed to foster knowledge of motor development and interaction between children with and without disabilities, and a resource packet. An observation of caregiver behavior scale was administered by two trained observers who independently and simultaneously observed each subject during pre- and post-treatment; and a self-rating scale was completed before and after treatment. Results indicate that the treatment group demonstrated significantly higher perceived competence, that perceived competence did not improve for the control group, and that perceived competence may be the first step toward promotion of movement-based activities. Copies of observation and self-rating scales for both groups are appended. (LL)

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Effects of a Motor Development Training Program on Child Care Providers with Children in Integrated Settings

Sherry L. Folsom–Meek, PhD

Department of Health and Physical Education

Ronald B. Gillam, PhD

Department of Communication Disorders

University of Missouri–Columbia

Columbia, MO

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Running head: Motor Development Training Program

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Abstract

The purpose of this study was to determine the effects of a motor development training program on child care providers' promotion of movement–based activities and perceived competence in this area. This research was part of a federally funded multidisciplinary project. Subjects were 20 child care providers from private agencies, randomly selected from those interested in participating, and randomly assigned to a treatment (n = 10) or control (n = 9, one withdrew) group. Treatment contained two components—on–site and group meeting. The M–TIKES Observation of Caregiver Behavior Scale (Gillam, 1989) was administered by two trained observers who independently and simultaneously observed each subject during pre and posttreatment (95% agreement). The M–TIKES Self–Rating Scale (Gillam, 1989) was completed before and after treatment. Observation data were analyzed by ANCOVA, with pretest score as the covariate. The results was not statistically significant [$F(1,16) = .76$, $p = .39$] for promotion of motor activities. For each group, the four perceived competence questions were analyzed with 2 (pre–post) x 4 (rating categories) chi–squares. The treatment group demonstrated significantly higher perceived competence for three questions and higher but not significant ($p = .052$) for one question. Perceived competence did not improve with any question for the control group. Findings imply that perceived competence may be the first step toward promotion of movement–based activities and that additional time is needed for implementation.

Effects of a Motor Development Training Program on Child Care Providers with Children in Integrated Settings

It is well established that movement is an important medium for enhancing psychomotor, affective, and cognitive development (Gabbard, 1992; Gallahue, 1989; Haywood, 1986; Payne & Isaacs, 1991; Pyfer, 1983). Through movement, children learn about themselves and their environment. Therefore, the following assumptions regarding children and movement are made. First, movement is beneficial to children. Secondly, the benefits of movement are enhanced when "at–risk" or disabled children move with their nondisabled peers. The nondisabled children can provide a model for those children who demonstrate difficulty with movement activities. Thirdly, the movement environment can be structured so that all children experience success. Lastly, child care providers can provide meaningful movement experiences that include both children with and without disabilities.

The purpose of this study was to determine the effects of a motor development training program on child care providers' promotion of movement–based activities and perceived competence in this area. This study was part of a federally funded grant project—Missouri–TIKES—Training Individuals to Care for Exceptional Preschool–Aged Students: A Collaborative Demonstration Project (M–TIKES) (Busch et al., 1989). This project addressed eight areas of child development: (a) general development, (b) coping mechanisms, (c) play, (d) motor development, (e) communication, (f) reading and writing, and (g) growth.

Method

Subjects

Sampling for this study was that which was conducted for the federal grant project. Twenty child care providers employed in private child care agencies participated in the project. A recruitment questionnaire was sent to 146 licensed day care facilities in and near Columbia, Missouri. Questions contained on the questionnaires included the following:

(a) facility's acceptance policies, (b) number of children with disabilities currently in attendance, (c) types of disabilities represented, (d) prior formal instruction in dealing with children with disabilities, and (e) interest in receiving additional training. Follow–up telephone calls and visits were then made to respondents who expressed an interest in the project, had no prior training in working with children with disabilities, and indicated a willingness to accept special needs children into their care. The 20 participants were randomly selected from those child care agencies expressing an interest in participating in the project after the participation requirements had been detailed.

With the constraint that treatment and control groups contain equal numbers of participants from home–based and center–based facilities, participants were then randomly assigned to either a training group or a control group. The groups consisted of 10 subjects each; one member of the control group withdrew from the study when she relocated to another community.

Instrumentation

The M–TIKES Observation of Caregiver Behavior Scale (Gillam, 1989) was developed to provide a record of specific caregiver behaviors in six domains: Cognition/Play, Motor Development, Social/Emotional, Communication, and Literacy. The scale utilizes time sampling to record data at 12, 2–min. fixed intervals during a 25–min. observation period. Before the inception of treatment, six observers were trained to score caregiver–child interactions. Following a five–hour training program, the observers independently scored two, 25–minute videotaped samples of actual caregiver–child interactions. Both training group and control group participants were observed five times (two pretreatment observations, two intratreatment observations, and one posttreatment observation). Two trained observers independently and simultaneously observed each subject separately during pretreatment and posttreatment phases, with a mean 95% agreement across the entire study. Across the study, the range of percent of agreement was 88.4 to 99.8%. The motor development portion of the instrument consists

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of the following categories: (a) fundamental stability skills, (b) fundamental locomotor skills, (c) fundamental manipulation skills, and (d) fine motor skills (Figure 1).

Insert Figure 1 about here

The M–TIKES Rating Scale (Gillam, 1989) is a four–point Likert scale for participants to rate the extent of their knowledge of 34 items within the categories of: (a) basic knowledge of preschoolers with disabilities, (b) cognitive development, (c) language and communication development, (d) managing behavior, (e) motor development, (f) parents of special needs children, and (g) health care and nutritional needs of preschoolers with disabilities. Four questions on the scale pertain to motor development. The separate areas of the scale were completed by participants during pretreatment and posttreatment phases according to the topic for that aspect of treatment (Figure 2).

Insert Figure 2 about here

Treatment

Treatment for the total project consisted of eight modules, each with a duration of one month. Treatment consisted of two components—on–site component and group meeting component. The on–site component consisted of university faculty assistance to day care providers in the form of visitations to each participating center. The first part of the on–site component consisted of a needs assessment in each area, which was conducted two weeks prior to treatment. The second part of the on–site component consisted of university faculty assistance to each child care provider, such as demonstrations and consultation.

The group meeting component consisted of the following: (a) lecture, (b) participation in movement activities designed to foster knowledge of motor development and interaction between children with and without disabilities, and (c) a resource packet.

Data Analyses

The four categories from the Observation of Caregiver Scale were collapsed for data analyses. Analysis of covariance (ANCOVA), with pretreatment observations as the covariate, was utilized to determine the effects of treatment on caregiver promotion of motor activities. To determine the effects of treatment on perceived competence of child care providers in the area of motor development, a 2 (pre–post) x 4 (rating categories) chi–square analysis was performed for each question by group.

Results

Results of the ANCOVA, with regard to behavior observations in promotion of gross and fine motor activities, revealed that there was no significant difference between the means of the treatment and control groups [F (1,16) = .76, p = .39]. In the area of motor development, the treatment group demonstrated significantly higher perceived competence for three questions and higher but not significant for one question. For the control group, perceived competence did not improve with any question. Results of the chi–square analyses are presented in Figure 3.

Insert Figures 3 & 4 about here

Implications

The training group's poor promotion of gross and fine motor activities did not parallel their perceived competence in knowledge of motor development. It appears that additional training, over a longer period of time, is necessary to teach child care providers how to promote gross and fine motor activities. However, perceived competence may be the first step toward child care providers' promotion of movement–based activities.

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Figure Caption

Figure 1. M–TIKES observation of caregiver scale—physical subscale (Gillam, 1989).

Data Collection

Observers will station themselves in the daycare environment so that they are apart from the general activity of the caregiver and children, yet close enough to clearly hear all discourse. After watching the general activity for a short period of time, observers will begin 25 minutes of observation, divided into 2 minute segments. The first clear example of scale behaviors that caregivers emit during each two–minute rating are tallied.

PHYSICAL

- **Promotes fundamental stability skills:** balancing, standing, rocking, climbing, tumbling, static balance, etc.
- **Promotes fundamental locomotor skills:** creeping, crawling, walking, running, jumping, hopping, etc. (moving from point A to point B).
- **Promotes fundamental manipulation skills:** managing, operating, or controlling objects larger than the child's hand; includes ball throwing, catching, bouncing.
- **Promotes fine motor skills:** managing, operating, or controlling objects smaller than the child's hand; e.g., finger plays, coloring, writing, drawing, painting, cutting.

Figure Caption

Figure 2. M–TIKES self–rating scale—motor development subscale (Gillam, 1989).

DIRECTIONS:

As objectively as possible, rate your level of knowledge for each of the items. In order to make our presentations suitable to individual needs, we need to know what areas to target. It takes eight of us to cover these areas during the M–TIKES meetings. Since no one knows everything, we don't expect you to either!

1 = Need to learn: Have very limited knowledge about that item.

2 = Need additional assistance: Have some knowledge about the item but feel you need to know more to be able to apply your knowledge when working with handicapped children.

3 = Independently competent: Able to apply your knowledge of this item when working with handicapped children without additional assistance.

4 = Mastery level: You know a great deal about this item and believe you could be a resource to other caregivers who may have questions about this.

<u>With Regard to Motor Development</u>

1. I know about the normal course of motor development between the ages of 2 and 5 years.

2. I know how to create movement experiences for handicapped children.

3. I know how to accommodate movement experiences to meet the individual needs of handicapped children.

4. I know how to design movement experiences that facilitate positive integration between handicapped and nonhandicapped children.

Figure Caption

Figure 3. M–TIKES self–rating scale—motor development subscale: expected and observed frequencies for treatment group.

Question #1:

SELF–RATING CATEGORY

	1	2	3	4
PRE	1.5 / 3	1 / 2	6.5 / 5	1 / 0
POST	1.5 / 0	1 / 0	6.5 / 8	1 / 2

Question #2:

SELF–RATING CATEGORY

	1	2	3	4
PRE	3 / 6	2 / 4	3 / 0	2 / 0
POST	3 / 0	2 / 0	3 / 0	2 / 4

Question #3:

SELF–RATING CATEGORY

	1	2	3	4
PRE	3.5 / 7	2.5 / 3	2 / 0	2 / 0
POST	3.5 / 0	2.5 / 2	2 / 4	2 / 4

Question #4:

SELF–RATING CATEGORY

	1	2	3	4
PRE	3 / 6	2.5 / 4	2 / 0	2 / 0
POST	3 / 0	2.5 / 1	3 / 6	1.5 / 3

Figure Caption

Figure 4. M–TIKES self–rating scale—motor development subscale: expected and observed frequencies for control group.

Question #1:

SELF–RATING CATEGORY

	1	2	3	4
PRE	1 / 1	1.5 / 1	5.5 / 6	1 / 1
POST	1 / 1	1.5 / 2	5.5 / 5	1 / 1

Question #2:

SELF–RATING CATEGORY

	1	2	3	4
PRE	3.5 / 4	5 / 4	.5 / 1	0 / 0
POST	3.5 / 3	5 / 6	.5 / 0	0 / 0

Question #3:

SELF–RATING CATEGORY

	1	2	3	4
PRE	4 / 4	4.5 / 4	.5 / 1	0 / 0
POST	4 / 4	4.5 / 5	.5 / 0	0 / 0

Question #4:

SELF–RATING CATEGORY

	1	2	3	4
PRE	4 / 4	5 / 5	0 / 0	0 / 0
POST	4 / 4	5 / 5	0 / 0	0 / 0